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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
.10/711,655	09/29/2004	DU CAO	

38788  
 DU CAO  
 3232 NORTHWAY AVE  
 WINDSON, ON N9E 4T  
 CANADA

CONFIRMATION NO. 5654

## FORMALITIES LETTER



\*OC000000014303065\*

Date Mailed: 11/05/2004

## NOTICE TO FILE CORRECTED APPLICATION PAPERS

*Filing Date Granted*

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given TWO MONTHS from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121 are required. The drawings submitted are not acceptable because:
  - More than one figure is present and each figure is not labeled "Fig." with a consecutive Arabic numeral (1, 2, etc.) or an Arabic numeral and capital letter in the English alphabet (A, B, etc.)(see 37 CFR 1.84(u)(1)). See Figure(s) 1-4.

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APPL NO.	FILING DATE (c) DATE	ART. 1 TRADEMARK	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLMS	IND CLMS
10/711,655	09/29/2004	2661	385		3	8	1

CONFIRMATION NO. 5654

38788  
 DU CAO  
 3232 NORTHWAY AVE  
 WINDSON, ON N9E 4T  
 CANADA

## FILING RECEIPT



\*OC000000014303064\*

Date Mailed: 11/05/2004

Receipt is acknowledged of this regular Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Filing Receipt Corrections, facsimile number 703-746-9195. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

DU CAO, Windsor, CANADA;  
 LI YU, Windsor, CANADA;

Power of Attorney: None

## Domestic Priority data as claimed by applicant

This appln claims benefit of 60/506,571 09/29/2003

## Foreign Applications

If Required, Foreign Filing License Granted: 11/05/2004

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US10/711,655**

Projected Publication Date: To Be Determined - pending completion of Corrected Papers

Non-Publication Request: No

Early Publication Request: No

\*\* SMALL ENTITY \*\*

Inventor: Du Cao & Li Yu.

Application No.: 10/711,655 INVENTION TITLE

Filing date: 9/29/04 VEHICLE COURTEOUS MESSAGE DISPLAY

## DESCRIPTION

### Heading

#### FIELD OF INVENTION:

[Para 1] The field of invention relates generally to one-way visual communication devices for courteous response and more particularly pertains to a new and improved vehicle message display that is a simplified device and easy operation as well as installation.

### Heading

#### BACKGROUND OF THE INVENTION:

[Para 2] Every so often, a driver may get ahead of and cut into a line of cars or cross a 4 way stop sign when another vehicle yields the right of way. Most vehicles normally yield the right of way when a truck makes a turn. It is a kind of courtesy for a driver to express his appreciation or excuse to another driver in a certain way. Conventionally, a driver may raise his hand or turn on and off his turn signal lamps to express his thanks. Unfortunately, other drivers, who did the favor, may not see or understand his meaning. Furthermore, an appropriate message can be shown for different situations. Messages, such as "BABY ON BOARD" and "NEW DRIVER" will alert other drivers to be more cautious around your vehicle. It may be necessary for one to get help in case of an emergency. Using a message such as "PLEASE HELP" or "PLEASE CALL 911" will be immensely useful.

[Para 3] The visual communication devices are revealed in the prior art. Generally, these involve safe travel, commercial message and two-way communication. There are typically three types of device. One is a simple device connected and activated together with signals in the vehicle electrical system for a display of fixed signs or messages, such as U.S. Pat. No. 5426414

to Flatin. Obviously, a driver can only show a few fixed signs or messages while a signal is turned on.

[Para 4] An erasable message board and / or illuminative message plate are generally used for another one-way visual communication device. A typical example of this invention is quoted by U.S. Pat. No. 6401374 to Bahmad. All of these devices are severely limited in the amount of information that can be displayed.

[Para 5] The third one, which is close to the present invention, is a digital display device with a matrix of light-emitting elements. The initial idea was put forward by U.S. Pat. No. 4361828 to Hose. The incandescent lamps are used to form the matrix of light-emitting elements for a message display in this invention.

[Para 6] U.S. Pat. No. 4949071 to Hutchison sets forth a vehicle communication device with a mercury switch. The control unit includes a series of selectively removable signal cartridges.

[Para 7] U.S. Pat. No. 5053746 to Taneo sets forth a vehicular communication device includes a visual display panel comprising a matrix of LED light members. A vehicular display device for securement to a self-propelled vehicle to overlie the vehicle rear bumper and mounted forwardly of the forward edge of a trunk assembly of the vehicle.

[Para 8] U.S. Pat. No. 5500638 to George sets forth a vehicular goodwill message system for displaying messages comprising a plurality of logic gates for receiving at least four timed signals and for supplying at least seven output signals and for electrically communicating with a timing means and a display means. There is a limitation of displaying message for both timing and display choice. The logic circuit is old style and too complicated.

[Para 9] U.S. Pat. No. 6300870 to Nelson sets forth a complex vehicle communicating system consisting of an onboard microelectronic miniature computer unit installed in the interior of a vehicle and a light emitting polymer (LEP) display panel unit.

[Para 10] U.S. Pat. No. 6553285 to Bahmad sets forth a message conveying system with a remote control unit adapted for securement to a dashboard of the motor vehicle and complicated mounting device fastened on the dashboard near the rear window. This invention reveals a good concept without supplying the means of message operation. The system of this invention does not offer the method how to input or edit a message in the system. The remote control unit, which is attached on a dashboard of the motor vehicle, is not handy for a driver.

[Para 11] With regard to a courteous message, there may be one U.S. Pat. 5578986 to Hiroshi dedicated to this kind of courteous expression. It relates to an on-off signal, which has a predetermined period to flash turn signal lamps, to express a driver's appreciation to a succeeding car. Even such action is doubtful to convey the intention of the driver with certainty. What is needed is a device proposed and dedicated to a clear expression of the courteous message.

[Para 12] Thus, it may be necessary for a new and improved vehicular message display for a simplified device and easy operation as well as installation.

[Para 13] While our world is going at such a fast pace, the present invention helps to cut down on road rage. It is quickly becoming one of the best ways to help tone down on preventable traffic accidents all the while, making a following driver feel appreciated.

## Heading

### BRIEF SUMMARY OF THE INVENTION

[Para 14] Therefore, it is an object of the present invention to provide a simplified device and easy operation as well as installation.

[Para 15] A device, vehicle courteous message display, is designed for a driver's courteous response to other people. Mainly, it includes a remote control and an electronic LED display panel box. The small and handy remote control may be put anywhere within easy access to the driver. The preprogrammed words, phrases, signs, or numbers are stored in a read/write

memory of the LED display panel. Driver can simply press a button to express each courteous message displayed through a visual display panel. The display panel is usually seated on a dashboard behind the rear seat with two pieces of double side foam tape or Velcro. In the present invention, the display panel can also be directly attached on the rear or side window of an automobile because of its unique design for a light weight LED display panel box with four suction cups.

[Para 16] A driver can express his courteous response to other people with simple phrases, such as "THANKS" or "SORRY" when needed. A driver may also express any other message by programming what he wants to say. The present invention allows sets of signs, phrases, words, or numbers to be easily programmed and edited by utilizing the small keypad of the remote control. The input and edit of a message are similar to a message entry of a cell phone operation, which eliminates any complicated and expensive computing system for the message operation in the previous arts.

### Heading

#### BRIEF DESCRIPTION OF THE DRAWING

[Para 17] FIG. 1 is the concept view of an application for the present invention.

[Para 18] FIG. 2 is the sketch map for the assembly of the vehicle courteous message display.

[Para 19] FIG. 3 is the photo picture showing the practical application of its installation.

[Para 20] FIG. 4 is the photo picture for the assembly of the vehicle courteous message display.

### Heading

#### DESCRIPTION OF THE PREFERRED EMBODIMENT

[Para 21] The present invention provides a driver with a chance to express his response to another driver when he/she yields the right of way and also gives him the chance to communicate his regret when he cuts another driver. The message can be a simple "THANKS" or "SORRY" as shown in FIG. 1 when

needed, or he can also express himself by displaying a message that he has programmed by himself.

[Para 22] As shown in FIG. 2 and FIG 4, a device of vehicle courteous message display includes an electronic LED display panel box (item 1), a remote control (item 2), a pair of brackets (item 3), four suction cups (item 4), two thumb screws (item 5), and a power cord (item 6) connecting to the 12V DC car cigarette lighter. The configuration of LED display panel box mainly comprises a signal receiving device, read/write memories and a visual display panel with a set of LED (Light Emitting Diode) matrix.

[Para 23] Both message input and edit can be completed with this small remote control. The key layout pattern on the remote control is similar with that of a cell phone. Thus, the means of message operation is almost the same as that of a cell phone. Just like a cell phone key layout pattern, each button represents a number and three or more letters. It acts as a functional key for the input or edit of a message in a programming condition. The remote control sends an electronic signal of triggering pulse to the LED display panel box while programming or editing. The signal can be transmitted through wire or wireless transportation. Sets of words, signs, or numbers are sent and stored in the memories of the LED display panel box. Then, the preprogrammed message can be actuated and displayed on the display panel by simply press a number key on the remote control. Each number of a button represents a specific message in a display mode. An electronic LED lighting number on the backside of the LED display panel box, which a driver can read through the rearview mirror, shows when and which courteous message is displayed. There can also be a small (e.g. LCD) screen on the remote control to indicate the same message shown on the display panel for the driver who conducts it.

[Para 24] Here is the installation procedure: the four suction cups (item 4) are pushed into notches on the bottom of brackets. The two thumbscrews (item 5) or socket head cap screws attach brackets to each end of the LED display panel box. Then, the LED display panel box will be attached on the window glass with suction cups. Finally, the power cord is plugged in both LED display panel box and a car cigarette lighter to run a default message automatically. The

display view angle can be easily adjusted at any degree. There is almost no tool needed for the installation.

[Para 25] Functionally, multiple choices for a message display, such as page-by-page displaying with timing selection and scrolling with different speeds are supplied in the present invention. In order to minimize the LED brightness that may be a distraction to another following driver, the LED display panel box may be equipped with a light intensity sensor to dim the display brightness automatically after dark. It provides different levels of visual intensity for a LED message display.

What is claimed is:

[Claim 1] A device, vehicle courteous message display, primarily includes a remote control with a small keypad and an electronic LED display panel box. The LED display panel box mainly comprises a single receiving device, read/write memories, and a visual display panel with a LED (Light Emitting Diode) matrix. When the remote control sends an electronic signal, triggering a pulse to the LED display panel box, there are two intents of the signal: either to program a new message or to display a programmed message. Sets of signs, phrases, words, and numbers can be programmed and edited with a small remote control and saved in the memory of the LED display panel box. Preprogrammed message can be actuated and displayed on the LED display panel with the same remote control.

[Claim 2] A device, vehicle courteous message display, according to claim 1, wherein multiple choices for a message display, such as page-by-page displaying with timing selection or scrolling with different speeds are supplied.

[Claim 3] A device, vehicle courteous message display, according to claim 1, wherein the small and handy remote control may be put anywhere within easy access to the driver. The layout of the keypad on the remote control is designed to be similar with a keypad of a cellular phone. Each button represents a few characters when programming or editing a message. On the other hand, the button also acts as the number of a specific preprogrammed message in the displaying mode. LED lighting number on the backside of LED



display panel box is used to show a driver when and which message is displayed. There may be a small display screen like LCD on the remote control to show the same message as that displayed on the display panel. The control signal can be transmitted through wire or wireless transportation.

[Claim 4] A device, vehicle courteous message display, according to claim 1, wherein its method may be embodied in original vehicle manufacturing or in an aftermarket product in a manner so that the driver may easily determine

[Claim 5] A device, vehicle courteous message display, according to claim 1, wherein the power used for both remote control and the electronic LED display panel box can be either battery or power outlet supplied in a vehicle. Voltage adaptor can also be used when needed.

[Claim 6] A device, vehicle courteous message display, according to claim 1, wherein the LED display panel box can be seated on the dashboard behind of rear window with two pieces of double side foam tape or Velcro. Otherwise, four small suction cups are used to attach it on the rear or side window of an automobile.

[Claim 7] A device, vehicle courteous message display, according to claim 1, wherein the means of the display can be made of LED (Light Emitting Diode) or any other light-emitting elements. An array of light emitting elements can be laid out in multi-line or other patterns.

[Claim 8] A device, vehicle courteous message display, according to claim 6, wherein light intensity sensor, which provides different levels of visual intensity for a display, may be equipped.

## ABSTRACT

[Para 26] A device, vehicle courteous message display, is designed to express a driver's response when the need arises. Mainly, it includes a small remote control and a LED electronic display panel box. The small and handy remote control can either program or play a message. The means of message input or edit is similar with that of a cell phone message operation. Programmed words, phrases, signs, and numbers are stored in read/write memories of the display panel box. A message or a group of messages can be instantly

displayed with a press of single button. The display panel can be easily placed on/near the rear window of an automobile with suction cups, double-side foam tape or Velcro.

## DRAWINGS

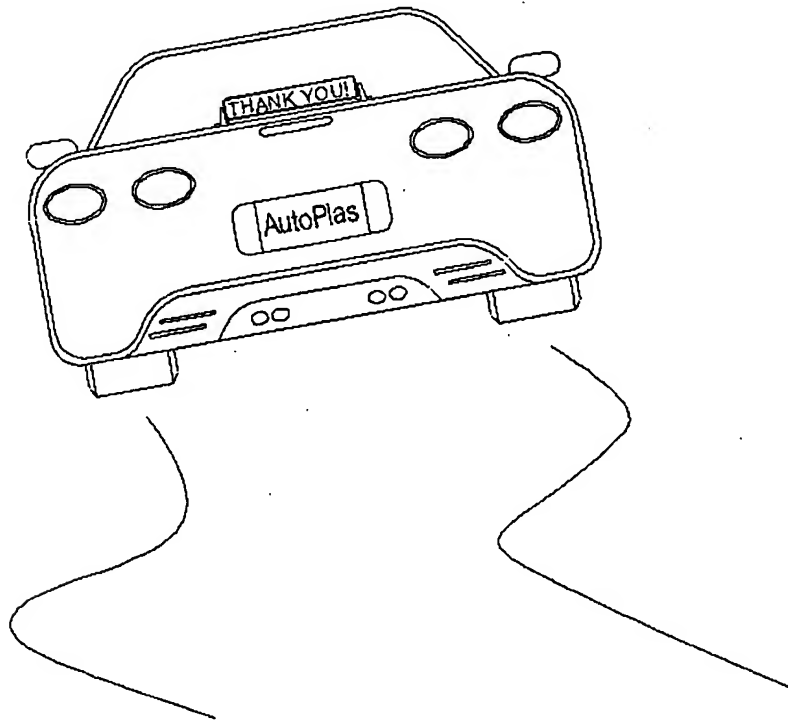


FIG. 1

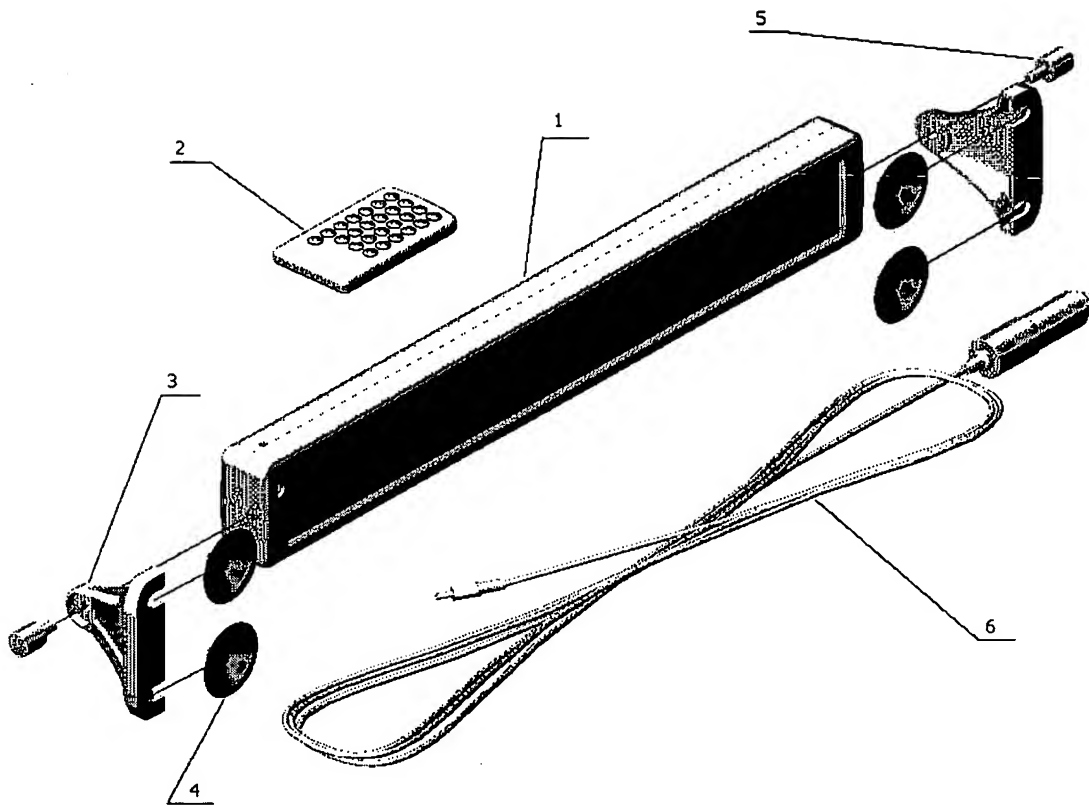


FIG. 2



FIG. 3

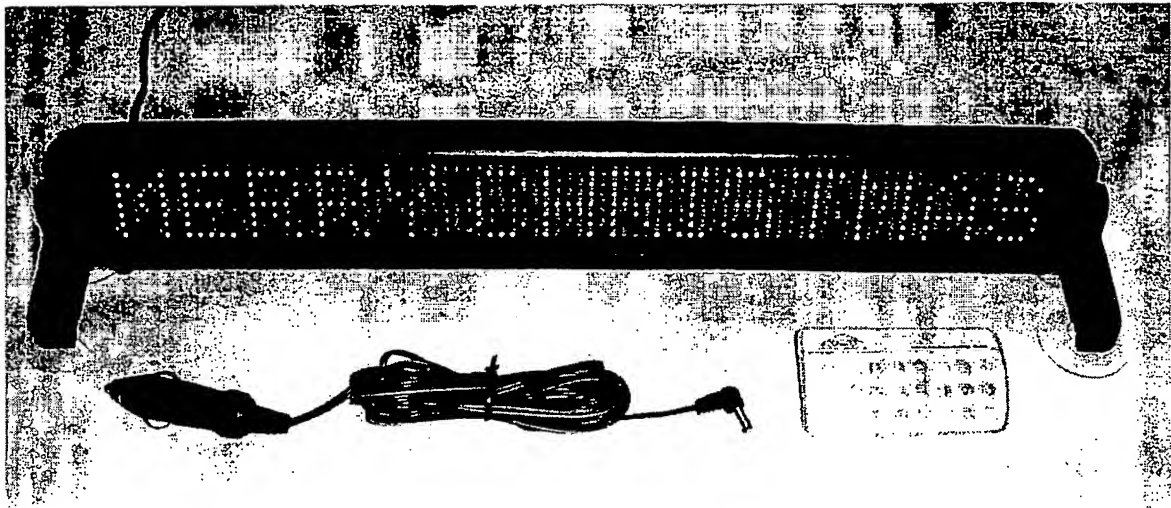


FIG. 4